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# Faculty of Business Economics

## Master of Management

***Masterthesis***

***The effect of communicating health and taste benefits on the effectiveness of healthy food advertising***

**Bo Vleugels**

Thesis presented in fulfillment of the requirements for the degree of Master of Management, specialization International Marketing Strategy

**SUPERVISOR :**

prof. dr. Sara LEROI-WERELDS

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# Acknowledgements

This thesis is submitted to complete the Master of Management: International Marketing Strategy program at Hasselt University. Besides the academic findings, writing this thesis has had a personal impact on me. Therefore, I would like to acknowledge those who have supported me throughout this process.

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Thank you all very much,

Bo Vleugels

Hasselt, 1 June 2018

# Summary

The purpose of this master thesis titled "The Effect of Communicating Health and Taste Benefits on the Effectiveness of Healthy Food Advertising" is to contribute to current knowledge and enhance the effectiveness of current marketing strategies, steering consumers towards healthier food choices. This study focuses on increasing the advertising effectiveness by communicating health and/or taste benefits in healthy food advertisements.

This master thesis is composed of eight chapters, all chapters contribute to the results of this study. The first chapters are introductory and explain the problem and methodology of this study. In chapter four and five, current literature is explored, followed by corresponding hypotheses. This literature provides a deeper understanding of unexplored areas in current marketing promotions. Current marketing communications of healthy food merely focus on health conscious people by communicating utilitarian benefits like health benefits. However, there is evidence that implies that this traditional strategy is not effective. Chapter six explains the empirical study. In total 165 respondents participated in an experiment. They were randomly allocated to one of the four groups with varied advertisement. Four advertisement with varied benefits (health, taste, no benefits or health and taste) were used as stimulus material. In order to measure advertising effectiveness, the four behavioral variables measured in this study are: ad credibility, attitude towards add, expected benefits and purchase intention. The results affirm that there is a significant interaction between health and taste. This interaction is synergic, meaning that health and taste strengthen each other. Conclusions and recommendations are drawn in chapter seven The aim of this study has been reached as the results provide evidence that adopting a dual strategy is most effective in order to foster consumers

making more healthy choices. This conclusion is in line with prior research providing evidence that both cognitive and affective are essential parts in forming an attitude towards a brand or product. Including both cognitive and affective effects increases the advertising effectiveness. Also the unhealthy=tasty intuition plays a key role in consumers' dietary behavior. This research provides evidence that this trade-off is broken down when marketers adopt a dual strategy, communicating both benefits in a healthy food advertisement. Chapter eight provides several limitations and suggests further implications in order to enlarge the effect of a dual strategy. A more holistic approach is suggested in order to increase the appeal of healthy foods so that consumers make healthier choices in the future.

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# 1. Problem statement

Food choices are an integral part of consumers' daily routines. Individual consumers are becoming more health-conscious, resulting in a rapidly expanding health food industry (Lee & Yun, 2015). Contrasting this trend is the growing issue of global obesity rates. Global food campaigns have attempted to resolve this issue, but appear to have failed, as many still consume too much unhealthy food (AMA, 2015). Encouraging these individuals to consume healthy food is challenging because this group tends to make their food choices based solely on taste.

These consumption issues are a worldwide epidemic. Even public policy makers are increasing their promotional budgets in order to foster healthy food choices in the hopes that healthy food patterns will evolve such that obesity rates will decrease (Lee & Yun, 2015; Mai & Hoffmann, 2015).

Among the plethora of factors that affect consumption decisions, marketing communications is seen as a key influencer of consumer decision-making behavior. Many studies have examined how marketing communications affect consumers' food choices; however, these studies have solely focused on the advertising of indulgent or high-calorie foods (Wertenbroch & Dhar, 2000). Although obesity is a global concern, little research has focused on advertising approaches to healthy food (Bublitz & Peracchio, 2015). Additionally, the number of marketing campaigns for healthy food is much lower and therefore less studied in general (Rusmevichientong, Streletskaya, Amatyakul, & Kaiser, 2014).

Previous research on marketing communications regarding food consumption indicates that advertising for healthy foods is substantially different from its indulgent counterpart (Bublitz & Peracchio, 2015). More specifically, advertising approaches for indulgent foods focus on affective responses and therefore utilize hedonic consumption themes of pleasure and sensory stimulation (Cairns, Angus, Hastings, & Caraher, 2013; Wertenbroch & Dhar, 2000). Conversely, marketing communications for healthy products tend to focus on informing consumers about the nutritious nature of the product and/or the health benefits of consuming the product, which is information that is cognitive in nature. This contrast is remarkable, since there is evidence that affective and/or emotional advertising of healthy products may lead to more positive ad and brand attitudes than non-emotional ads do (Bublitz & Peracchio, 2015; Geuens, De Pelsmacker, & Faseur, 2011)

Raghunathan, Naylor, and Hoyer (2006) argue that healthy products often increase consumers' negative taste expectations. Their research suggests that consumers implicitly perceive healthy food as unappetizing and unhealthy food as appetizing. Advertising both health and taste for a healthy food product can reduce this trade-off effect between them (Choi & Springston, 2011; Mai & Hoffmann, 2015; Raghunathan et al., 2006). One could argue that a decrease in this unhealthy as tasty intuition is necessary to increase the effectiveness of healthy food communications. In addition, it could steer consumers toward healthier food choices (Mai & Hoffmann, 2015).

The literature does not widely cover the effects of adopting such strategies in advertisements for healthy products. Increasing the effectiveness of advertising campaigns for healthy products is essential to increasing

consumers' attention toward healthy eating. It is therefore vital for marketers to learn more about the role of health and taste benefits in this process.

Marketers may change the appeal of expectations associated with healthy products by adopting a communication strategy that changes the positioning of healthy products as tasty rather than (only) focusing on their nutritional benefits, or by adopting a dual strategy that focuses on both health and taste. This is the focus of this master's thesis.

# 2. Research questions

## 2.1 Central Research Question

According to the problem statement, there is a need for further research in healthy food advertising communications. In this research, the focus is on communicating health and/or taste benefits in advertisements of healthy foods since the effectiveness of traditional health campaigns is doubtful. Therefore, the central question of this research is:

Are there differences in advertising effectiveness based on communicating taste benefits vs. no taste benefits and communicating health benefits vs. no health benefits in healthy food advertising?

## 2.2 Research questions

To better understand and address the central research question, it is divided into three sub-questions.

*Are there differences in advertising effectiveness based on communicating taste benefits vs. no taste benefits in healthy food advertising?*

*Are there differences in advertising effectiveness based on communicating health benefits vs. no health benefits in healthy food advertising?*

*Is there an interaction between communicating taste benefits and health benefits that affects the effectiveness of healthy food advertising?*

# 3. Methodology

This master's thesis is divided into a literature review and an empirical analysis.

The literature review is the primary part of this thesis. This study aims to develop a better understanding of the subject by collecting information from the extant literature. In addition, the literature review can be seen as exploratory in the process of finding a solution to the problem statement.

In the second part, the approach and results of the empirical analysis are thoroughly discussed. An online survey contributes to the results of this quantitative research. All results have been collected over a single period, which is referred to as a cross-sectional design. The survey is set up using Qualtrics; therefore, the link is consequently distributed via online channels such as e-mail and Facebook. The primary data are analyzed in order to answer the central question of this thesis.

# 4. Literature study

This literature review provides information about how advertising works, deliberates on food advertising, describes current marketing food communications and explores how health and taste are positioned in these affairs. Below, these topics are presented in five sub-questions, these questions will be answered in this chapter.

4.1 How does advertising affect consumers?
4.2 How can we measure the effectiveness of an advertisement?
4.3 How do consumers evaluate food?
4.4 What is the focus of current healthy food marketing communications?
4.5 How are health and taste positioned in food marketing communications?

## 4.1 Advertising framework

Vakratsas and Ambler (1999) reviewed and generalized theoretical principles to summarize how advertising works in order to understand how advertising affects consumers (Figure 1).

In this framework, the input for the consumer is the advertising of brands. The different strategic components of this input are message content, media scheduling and repetition. The content can be informational or emotional. Scheduling and repetition refer to the length effects and the number of exposures of the ad. The combination of these strategic components triggers responses before affecting consumer behavior.

The filters, motivation and ability (involvement), in the framework are the mediating factors of these individual responses. Involvement is defined as,

"an unobservable state of motivation, arousal, or interest. It is evoked by a particular stimulus or situation and has drive properties. Its consequence are types of searching, information-seeking and decision making" (Rothschild, 1984, p.127), as cited in Vakratsas and Ambler (1999, p. 32). Another factor is attitude towards the ad, this factor refers to the likability of the ad. Thus motivation, likability and ability to process the information have the strength to change an individual's response to an advertisement.

These responses are either cognitive or affective. The latter refers to the "feeling" dimension of responses, whereas the former refers to the "thinking" dimension of responses. Both of these dimensions affect consumer behavior. Consumer behavior refers to behavioral effects like purchasing and product use behavior. In short, the framework implies that, before advertising affects consumer behavior, there is a cognitive and/or affective mental response.

In the event that a mental effect is merely cognitive, consumer decisions are purely rational, meaning that a consumer's preference for or interest in specific attributes are not influenced by advertising. Affective consumer decisions are guided by familiarity with and feelings towards an advertisement or brand, which illustrates that consumers' feelings and emotions are stimulated by advertising inputs (Vakratsas & Ambler, 1999).

One can divide the models involving both affective and cognitive effects in three different classes: high involvement, low involvement and integrative. When consumer involvement is high, the attention-interest-desire-action model (AIDA) is most applicable. All models based on this theory follow the cognitive–affective behavior sequence, in this specific order. If consumer involvement is low, the sequence of these effects is identified as "think,"

"feel" and "do", as specified in other models. When involvement is low, people tend to base their choices on habits and previous product experience. Thus the sequence is "think", "do" and "feel" because habit buying mostly occurs when there is low involvement.

In these aforementioned models, the sequence of these effect is fixed. In contrast, more complex integrative models assume that the order of these effects is not fixed because the sequence depends on the context. This context can change because of high or low consumer involvement in the product category or whether a consumer's choice is chiefly determined by cognition or affect. The essence is that both affective and cognitive effects play a key role in consumer behavior.

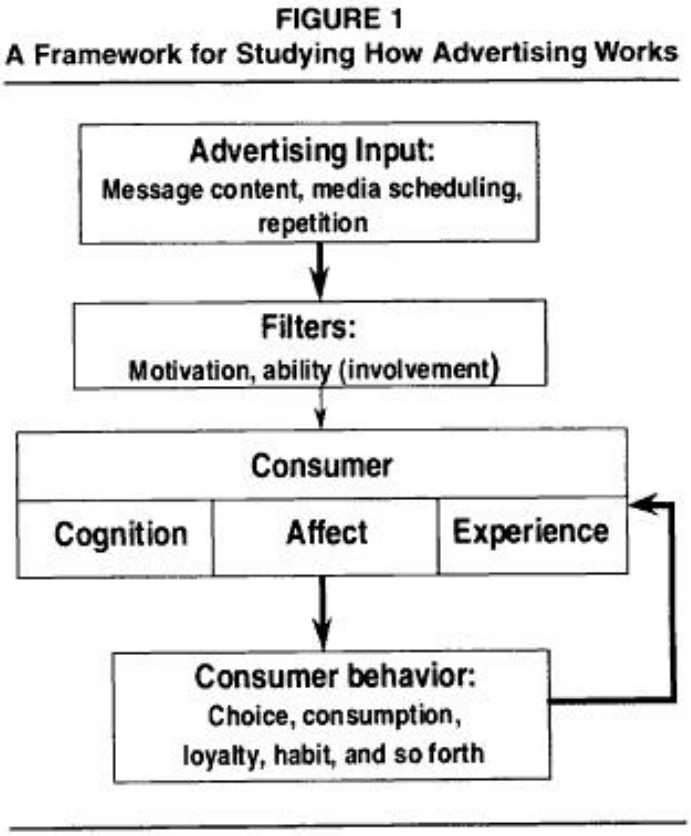


*Figure 1: A framework of how advertising works. Reprinted from "How advertising works: What do we really know?" by Vakratsas and Ambler (1999).*

As previously stated, affect and cognition are recognized in the advertising framework. Prior research has identified two related routes of how advertising can influence consumer behavior: the central cognitive route and the peripheral route. The latter is more connected to emotions and behavioral heuristics, while the former is associated with careful considerations of an advertising message (Petty & Cacioppo, 1986; Rusmevichientong et al., 2014).

These routes are displayed in the elaboration likelihood model from Petty and Cacioppo (1986) (Figure 2). The model addresses the likelihood of consumers making decisions based on either cognitive or peripheral characteristics. Petty and Cacioppo (1986) state that when elaboration is high, people tend to engage in central route processing to examine the information presented to them in order to support the proposition. When receivers have a high motivation and genuine interest followed by their ability to process the message, their attitude is determined by cognitive responses to the presented information. After assessing the relevant information this process can lead to long-term changes in attitude. These attitude can be positive or negative. In both cases the effect is strong and enduring, thus their behavior is more easy to predict.

However, when people lack the motivation or ability to process the information, the peripheral route is taken. Here, the consumer's attitude is primarily formed by the use of cues or heuristics and therefore an attitude change is  These simple cues (e.g., an incidental affect associated with the message or product) can be extremely effective in changing customers' attitudes. Principally, the peripheral route attitude is less enduring and deep than attitudes formed via the central route. However, to increase motivation, personal relevance is crucial. This can be done by including

positive and attractive cues in an advertisement to temporarily change the viewer's attitude.

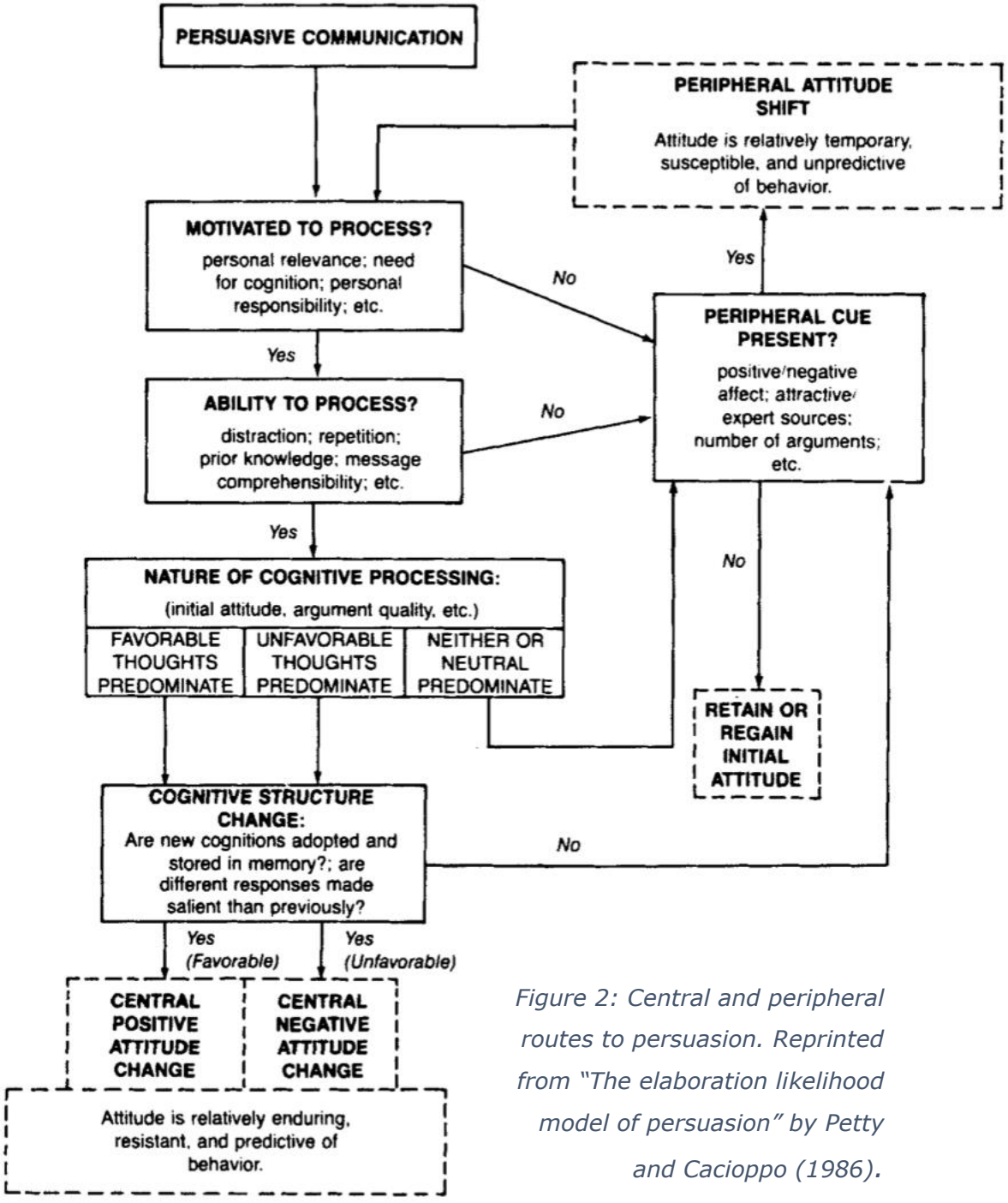


*Figure 2: Central and peripheral routes to persuasion. Reprinted from "The elaboration likelihood model of persuasion" by Petty and Cacioppo (1986).*

Eisend and Tarrahi (2016) study advertising effects by measuring the strength of the relationship between input and outcome categories. The source, message and media strategy are input measures, while attitudes, behavior and memory are outcome measures. These outcome measures are behavioral categories. Eisend and Tarrahi (2016) find that combining specific inputs and outcomes triggers particular underlying processes, which then explain different hierarchy effects. These processes can explain and generate high advertising effectiveness. One finding provides evidence that an advertisement's message has the strongest effect when combined with cognition and emotion. To clarify, emotion refers to the affective response to the advertisement, which is evoked by the peripheral cues of the message when customer involvement is low. This is in contrast to information-based messages, which influence thoughts and cognitive responses to an advertisement or brand. This emotion–cognition process explains how the message affects cognition and emotion before it can affect attitudes. Thus, the message characteristics (i.e., what is communicated) have the strongest effect on consumer attitudes by influencing cognition and emotion. Put another way, when attempting to change an attitude, what is being communicated is more important than who is communicating or how they are communicating.

The message's content is essential to determining its value proposition. In recent years, value proposition has become the most widely used expression in business, and research shows that a superior value proposition can lead to a competitive advantage and greater organizational performance (Payne & Frow, 2014). Therefore, companies must be aware of and develop superior value propositions (Payne & Frow, 2014). Customers assess value as the trade-off between the offering's benefits and costs (Leroi-Werelds, Streukens, Van Vaerenbergh, & Gronroos, 2017). For

these reasons, the benefits communicated in an advertisement can have a great effect on the advertisement's effectiveness.

## 4.2 Effectiveness of advertising

Measuring the effectiveness of an advertisement is essential to marketing research. As previously stated, Eisend and Tarrahi (2016) studied whether and to what degree advertising influences consumers and explains different consumer attitudes evoked by the advertisement. These reactions can be cognitive, affective, behavioral or attitudinal. Their paper studies the strength of the relationship between advertising inputs and the outcomes that are affected by advertising as well as how these reactions are related (e.g., whether emotions provoke behavior and attitude). These outcome categories are behavioral and are part of a specific approach to measuring advertising effectiveness.

There are two main methods for measuring advertising effectiveness. One focuses on indicative marketing metrics such as awareness, preference, customer satisfaction and loyalty, while the other focuses on tangible marketing metrics such as sales, market share and profits (Hamelin, Moujahid, & Thaichon, 2017). This research focuses on indicative marketing metrics, or the behavioral paradigm, since food advertising triggers both affective and behavioral responses (Bublitz & Peracchio, 2015; Cairns et al., 2013; Wertenbroch & Dhar, 2000). Eisend and Tarrahi (2016) provide an overview of different variables used in a behavioral approach (Table 1). In this analysis, behavior and attitude are closely related outcomes of marketing communications.

Eisend and Tarrahi (2016) define these variables: "Attitude is the tendency to respond (i.e., think, feel) in a way as intended by the advertisement"

and "behavior is the tendency to behave in a way as intended by the advertisement" (p.521).

Table 1. Analysis of advertising inputs and outcomes

| Variable | Definition | Operationalization/Coding Instructions and Examples |
|---|---|---|
| Advertising input measures | | |
| Source | Characteristics of the object that transmits content and information in advertising | E.g., celebrity expertise, source credibility, source gender |
| Strategy | Characteristics of the plan, process, and execution of transmitting the message from the source to the receiver | E.g., exposure, intensity, repetition, duration, spending, media |
| Message | Characteristics of the communication content in advertising that is transmitted from the source to the receiver | E.g., sidedness, comparisons, conclusion explicitness, humor |
| Receiver | Characteristics of the consumer who receives an advertising message | E.g., prior attitude, consumer motives, feelings, values |
| Advertising output measures | | |
| Attitude | Tendency to respond (i.e., think, feel) in a way as intended by the advertisement | Attitudes, intentions, persuasion |
| Behavior | Tendency to behave in a way as intended by the advertisement | E.g., choice, brand behavior, consumption |
| Emotion | Affective responses toward the advertisement | E.g., ad-evoked feelings, positive/ negative affect |

| | | |
|---|---|---|
| Cognition | Thoughts and cognitive responses toward the advertisement | E.g., brand cognitions, ad cognitions |
| Credibility | Quality of the advertisement message or source of being believable or worthy of trust | Credibility of source and ad |
| Processing | Stages in the cognitive movement of information provided by the advertisement | E.g., awareness, understanding |
| Other | Covers all remaining outcome measures | E.g., market value, standardization |

Table 1: Variables used in the meta-meta-analysis. Reprinted from *"The Effectiveness of Advertising: A Meta-Meta-Analysis of Advertising Inputs and Outcomes" by Eisend and Tarrahi (2016).*

In this study, the criteria used to measure ad effectiveness are ad credibility, attitudes toward the ad, purchase intention and expected benefits. Expected benefits are based on the perceived value from a customer perspective (Leroi-Werelds et al., 2017). Ad credibility measures the believability of the ad. Both purchase intention and attitude toward the ad are related to attitude because they measure consumer intentions (Eisend & Tarrahi, 2016). These measurements are explained below.

### 4.2.1 Advertisement credibility

Ad credibility is defined as "the extent to which the consumer perceives claims made about the brand in the ad to be truthful and believable" (MacKenzie & Lutz, 1989, p. 51). Providing information about the health benefits of food products that is recognized and understood is related to this variable. First, consumers tend to categorize products as healthy or unhealthy. When consumers perceive a product as unhealthy, they might even ignore the health information (Bialkova, Sasse, & Fenko, 2016).

Moreover, it is crucial that consumers understand the benefits in order to truly add value. Here, a proper fit between the health claims and the perceived healthfulness of the actual products plays a crucial role in determining consumer responses (Carrillo, Varela, & Fiszman, 2012; Lähteenmäki, 2013). Additionally, it is important that the consumer believes what the advertisement proposes because higher believability results in a more positive attitude toward the ad (Leroi-Werelds et al., 2017; MacKenzie & Lutz, 1989). This implies that ad credibility is a relevant criterion in measuring effective healthy food advertising.

### 4.2.2 Attitude toward the advertisement

Attitude is an important mediator of the advertising response and is significantly related to advertising effectiveness (Hamelin et al., 2017; MacKenzie & Lutz, 1989). These attitudes can be cognitive and/or affective evaluations of the product. If consumers evaluate a product positively, there is a greater probability of performing that behavior and influencing consumers' purchase intention (Hamelin et al., 2017).

### 4.2.3 Expected benefits

Expected benefits are the positive outcomes that can be expected when successfully using a product or service (Leroi-Werelds et al., 2017). In products, these benefits can be either hedonic or utilitarian. In this study, the effect of communicating health (cognitive) or taste (affective) benefits on the attractiveness of the advertisement is analyzed.

### 4.2.4 Purchase intention

Purchase intention is an outcome criterion that can measure advertising effectiveness (Hamelin et al., 2017). Both utilitarian and hedonic attitudes

are reflected in consumers' assessments. Thus, the usefulness of a product forms the utilitarian attitude, whereas assessing a food product as pleasant is reflected in a hedonic attitude. Both hedonic and utilitarian assessments reflect the consumer's purchase intention (Lee & Yun, 2015). Because this variable relates to intention, it is an attitudinal variable; yet, this criterion refers to the probability that a consumer will perform the purchasing behavior (Hamelin et al., 2017).

These four components contribute to an attitudinal perspective and are used to measure advertising effectiveness.

## 4.3 Food evaluations in advertising

In food marketing communications, the term *attitude* is used often. According to Petty and Cacioppo (1986), attitudes are the "general evaluations people hold in regards to themselves, other people, objects and issues. These general evaluations can be based on a variety of behavioral, affective and cognitive experiences and are capable of influencing or guiding behavior, affective and cognitive processes" (p. 127). Various researchers have examined the attitudes involved in food marketing communications.

Bublitz and Peracchio (2015) support the notion that using creative and positive advertisements can capture consumers' attention. Accordingly, this attentive state leads consumers to attend more to visual benefits of a product. Moreover, these positive emotions are more easily transferred to intention, even when consumer involvement is low.

Lee and Yun (2015) focus on attitudes toward purchasing organic food, which is considered a healthy food because of its high nutritional content. They found that both the nutritional content and sensory appeal of products

play key roles in purchase decisions. More precisely, consumers' behavioral intentions to purchase organic food are influenced by both utilitarian and hedonic attitudes toward the product. The only difference is that utilitarian attitudes directly lead to purchase intentions, whereas hedonic attitudes lead toward the development of these intentions. This implies that a consumer's desire for a sensory experience can by satisfied by describing these food experiences in advertising messages.

These attitudes are guided by implicit and explicit processes, both of which affect food choice behaviors. Nonetheless, explicit processes are easier to change, but implicit taste associations have greater predictive power to change eating behavior. Consumers do not always think rationally when buying food; some food decisions are made automatically or unconsciously, which is also known as habit buying (Mai & Hoffmann, 2015). These implicit processes are guided by heuristics and are therefore spontaneously activated, whereas explicit processes are controlled by logic and operate at a conscious level. The unhealthy = tasty intuition occurs at the implicit level, meaning that associations between taste and health occur outside the awareness of consumers (Choi & Springston, 2011). This implicit process is relevant in explaining food choices and taste associations. In future marketing communications, it is crucial to avoid negative taste associations that occur at an implicit level (Mai & Hoffmann, 2015).

## 4.4 Healthy vs. tasty

Consumers' food intake leads to compromise between a short-term hedonic goal of tasty food and a long-term utilitarian goal of nutrition (Mai & Hoffmann, 2015). This general principle is reinforced by the inverse relationship between things that are healthy and things that are enjoyable. Moreover, emphasizing health claims in products has a limited effect on people's perceptions of products regarding their healthfulness. In addition,

emphasizing health can have a negative effect on other expectations like taste, naturalness and convenience. This can be tricky because taste is a top priority of consumers' food choices (Lähteenmäki, 2013). Raghunathan et al. (2006) state that healthy products often result in negative taste expectations from consumers, which means that consumers automatically assume that healthy foods taste bad. Likewise, the less healthy a product is portrayed to be, the better its taste is perceived. This trade-off between health and taste is referred to as the unhealthy = tasty intuition. Choi and Springston (2011) find that this intuition is implicit, meaning that extrinsic health messages cannot change a consumer's intuition. They support the notion that health and nutrition claims in food advertising only enhance the healthfulness of perceivable healthy products because consumers expect nutrition from healthy products and expect taste from unhealthy products. Inferior taste expectations also have a bigger impact on food decisions than health expectations do; therefore, increasing taste expectations is essential in healthy food advertising (Mai & Hoffmann, 2015). This trade-off has a great influence on food perceptions and eating behaviors.

Mai and Hoffmann (2015) find that only health-conscious people do not infer a taste decrease in healthy products. This could be because health-conscious consumers are more sensitive to cues that indicate healthfulness. Nonetheless, targeting this group is not sufficient because health problems are not escalating due to health-conscious consumers. In order to solve health problems, a wider approach must be implemented.

To increase the effectiveness of healthy food communications, this unhealthy = tasty intuition must be reduced. Researchers have proposed several approaches to reduce this intuition. Mai and Hoffmann (2015) suggest that marketers should communicate more positive messages in

advertising. This approach is more holistic and emotional than rational and leads to more positive healthy food associations. These positive messages should not emphasize the health aspects of a product but rather make healthy products more attractive and emphasize taste aspects.

Positive healthy food associations could lead to the same level of success as the current packaged food industry, and combining taste and health benefits in food advertising can help to achieve this success (Bublitz & Peracchio, 2015). Additionally, Choi and Springston (2011); Raghunathan et al. (2006) state that a potential solution would be to stress both taste and health aspects of healthy foods in order to break down the unhealthy = tasty intuition and increase the probability of consumers choosing a healthy product. Despite these beliefs, research on this matter is limited.

## 4.5 Healthy food campaigns

Taste associations have predictive power in explaining food consumption. Thus, when consumers make food choices, taste is an important driver in that decision (Lähteenmäki, 2013; Mai & Hoffmann, 2015). Nevertheless, traditional health food campaigns tend to focus on health rather than taste. Marketers of healthy food focus on cognitive information, such as nutrition and healthfulness, but neglect affective appeals when promoting their products. These practices can be debated, because adding health claims to healthy products may confuse consumers. Lähteenmäki (2013) notes that making healthy food healthier by adding health benefits does not make sense to consumers. Above all, most food consumption choices primarily rest on hedonic and sensory evaluations (Bublitz & Peracchio, 2015; Lähteenmäki, 2013; Mai & Hoffmann, 2015). There is evidence that the role of affective appeals or benefits in healthy food communications can play a

key role in food advertising effectiveness (Bublitz & Peracchio, 2015; Geuens et al., 2011; Lim & Ang, 2008).

The consumption of food products can be categorized into hedonic or utilitarian motivations. The former is based on fun or enjoyment and generates emotional responses. The latter has a more rational appeal and provides greater cognitive benefits (Lim & Ang, 2008). Presently, health products have a more utilitarian approach, as promotional communications are related to cognitive aspects of the product.

However, both hedonic and utilitarian products can present affective or pragmatic benefits. Lim and Ang (2008) found that featuring hedonic benefits in ads for utilitarian products could enhance consumer attitudes toward those products. In addition, Geuens et al. (2011) state that when ads promote the emotional appeals of products, they trigger an emotional response that has a positive effect on attitudes toward the ad and brand. These effects are strongest for low-involvement, utilitarian products—i.e., healthy food advertising. Moreover, Lee and Yun (2015) found that a sensory experience leads to a higher purchase intention for healthy food because the purchase is perceived as pleasurable, fun and exciting. Claiming that a food product is healthy consequently has a negative effect on its perceived pleasantness and thus lowers consumers' intention to buy it (Lähteenmäki, 2013). Likewise, Mai and Hoffmann (2015) found that a positive approach is needed to establish new implicit associations with healthy food. Therefore, positive messages like taste benefits must be communicated to stimulate healthy food choices. Nonetheless, a positive approach to communicating hedonic benefits can fail. Attracting consumers' attention can negatively impact their food choice, as this approach could encourage doubt or disbelief in the food label (Bialkova et al., 2016).

The belief that utilitarian products' functional benefits should be promoted is controversial. Yet, most healthy food campaigns have relied on providing information in order to improve people's diet. This approach has not proven to be successful (Bublitz & Peracchio, 2015; Mai & Hoffmann, 2015).

These benefits must be specified to identify what attracts consumers' attention. Therefore, communicating and researching taste and health benefits in advertising is the focus of this study.

# 5. Hypotheses

The fact that healthy products are advertised in a cognitive manner while advertising processes involve both cognitive and affective responses is remarkable. Marketers have overlooked affective appeals in their food marketing communications (Bublitz & Peracchio, 2015; Vakratsas & Ambler, 1999). However, there is evidence that consumers make healthier choices when they believe healthy products taste good, meaning that emphasizing taste over health helps consumers make healthier choices (Bublitz & Peracchio, 2015). Positioning healthy products as tasty rather than focusing on their nutritional benefits can lead to a change in the expectations and appeal of healthy products (Bublitz & Peracchio, 2015). Different researchers believe that this process could break down the taste = unhealthy intuition and increase the effectiveness of advertising (Geuens et al., 2011; Lee & Yun, 2015; Lim & Ang, 2008; Mai & Hoffmann, 2015).

Following the previous reasoning, the following hypotheses are derived:

| |
|---|
| H1: Communicating **taste benefits versus no taste benefits** in a healthy food advertisement has a positive effect on **ad credibility**. |
| H2: Communicating **taste benefits versus no taste benefits** in a healthy food advertisement has a positive effect on **attitude toward the ad**. |
| H3: Communicating **taste benefits versus no taste benefits** in a healthy food advertisement has a positive effect on **expected benefits.** |
| H4: Communicating **taste benefits versus no taste benefits** in a healthy food advertisement has a positive effect on **purchase intention.** |
| H5: Communicating **health benefits versus no health benefits** in a healthy food advertisement has a negative effect on **ad credibility.** |
| H6: Communicating **health benefits versus no health benefits** in a healthy food advertisement has a negative effect on attitude toward ad. |

| |
|---|
| H7: Communicating **health benefits versus no health benefits** in a healthy food advertisement has a negative effect on **expected benefits.** |
| H8: Communicating **health benefits versus no health benefits** in a healthy food advertisement has a negative effect on **purchase intention.** |

Today, marketing communications for less-healthy alternatives frequently adopt a dual strategy (Bublitz & Peracchio, 2015), which focuses on both the health and taste dimensions of a product. This strategy is used to increase the perceived healthfulness of the product by focusing on a healthy dimension of a rather unhealthy product. Promoting "healthier" versions of consumers' favored foods has proven successful and has increased the consumption of these foods (Bublitz & Peracchio, 2015). This approach can also be used to promote healthy products by positioning these goods as both tasty and healthy. Lee and Yun (2015) examine the key antecedents of consumer attitudes toward organic foods and find that both nutritional and hedonic perceptions are drivers of purchase intention for healthy foods. So far, healthy products have not been positioned this way. However, combining taste with health may help to boost healthy food consumption in order to achieve the success of the indulgent food industry (Bublitz & Peracchio, 2015). Moreover, communicating both health and taste benefits can potentially break down the health and taste trade-off (Lim & Ang, 2008; Raghunathan et al., 2006). In this case, that independent variables taste and health reinforce each other.

Based on the foregoing findings, the following hypotheses are derived:

| |
|---|
| H9: There is an interaction between communicating **taste benefits and health benefits** that affects **ad credibility** in healthy food advertising. |
| H10: There is an interaction between communicating **taste benefits and health benefits** that affects **attitudes toward ads** in healthy food advertising. |
| H11: There is an interaction between communicating **taste benefits and health benefits** that affects **expected benefits** healthy food advertising. |
| H12: There is an interaction between communicating **taste benefits and health benefits** that affects **purchase intention** in healthy food advertising. |

# 6. Empirical Analysis

In this chapter, the research method, data collection, data description and data analysis are discussed.

## 6.1 Research method and data collection

### 6.1.1 Research method

The appropriate statistical technique for this analysis is a multivariate technique, which is suitable for analyzing data when there are two or more observations and two or more independent variables and when the variables are analyzed simultaneously (Malhotra, Hall, & Birks, 2017).

Dependent and independent variables are identified, as this is fundamental for a dependence technique. In this study, the independent variables are health benefits and taste benefits; the presence and absence of these variables are manipulated in an experiment. The dependent variables are advertisement credibility, attitude toward the advertisement, expected benefits and purchase intention. These four variables are based on the literature and are used to measure advertising effectiveness.

An analysis of variance and covariance (ANCOVA) is used in this study. This test controls for two covariates, controlling for the respondents' preferences and levels of health consciousness. These covariates can influence the relationship between the dependent and independent variables. Two questions in the questionnaire address the covariates, and these are taken into account in the analysis:

1. Are you a health conscious person?
2. Do you like eating oatmeal?

Thus, to test the aforementioned hypotheses while controlling for two covariates, a 2×2 (health benefits included and health benefits not included × taste benefits included and taste benefits not included) between subjects design is used to examine the four different dependent variables.

### 6.1.2 Data collection

In order to collect data, an online questionnaire was created and distributed through Qualtrics. Using this online survey tool, primary data can be collected by distributing the survey link via e-mail, social media and personal messaging. In this research, any person 16 years and older was able to participate. The four dependent variables are answered by seven-point semantic differential scales and Likert scales.

Ad credibility and attitude toward the ad were measured using a four-item semantic differential scale based on MacKenzie and Lutz (1989) and Leroi-Werelds et al. (2017). Expected benefits were measured by seven-point Likert scales based on Leroi-Werelds et al. (2017). Purchase intention was measured using a two-item semantic differential scale adopted from Hamelin et al. (2017) and Leroi-Werelds et al. (2017).

## 6.2 Study sample and procedure

### 6.2.1 Study sample

In total 165 respondents participated in a 2×2 between subjects experiment. They were randomly allocated to one of the four groups with varied benefits in their ads. The first advertisement does not have any added value propositions; this ad was displayed to the control group.

| | Taste benefits included (IV) | Taste benefits not included (IV) |
|---|---|---|
| **Health benefits included (IV)** | Ad communicates both health and taste benefits | Ad communicates solely health benefits |
| **Health benefits not included (IV)** | Ad communicates solely taste benefits | Ad communicates no specific taste or health benefits |

*Table 2: 2X2 ANOVA design*

### 6.2.2 Stimulus material

Four different advertisements were created for the experiment. The promoted product is oatmeal, which provides significant health benefits. It is a source of vitamins, minerals and fiber and can reduce cholesterol levels. Therefore, this product is categorized as a healthy food. The brand used in these advertisements is unknown so that brand recognition/preference has no influence on the results.

Ad 1: Communicating no taste or health benefits


Ad 2: Communicating both health and taste benefits

Ad 3: Communicating only health benefits


Ad 4: Communicating only taste benefits


## 6.3 Data analysis

In this design, there are two factors: health benefits and taste benefits. Both independent variables are categorical. They are tested on two different levels (i.e., no taste benefits or taste benefits included); the combination of these factors is called the treatment. The differences between groups for different variables and participants are examined in four different groups. Accordingly, a between groups factorial ANOVA is used to test the hypotheses. The two-way ANOVA test looks at the difference between groups regarding one independent variable with more than two groups. After comparing taste and health, the combination of the independent variables is tested. This is called the interaction effect of both variables, which could have a significant effect on the dependent variables. An interaction occurs when the effect of taste on one of the dependent variables is different at different levels of health and vice versa (Malhotra et al., 2017).

In order to control for specific covariates, a more advanced ANOVA model is used. The ANCOVA takes into account the respondent's attitude toward the product. Thus, in this research, preferences and health consciousness

are these two factors. Controlling for these covariates consequently contributes to a trustworthy representation of reality.

Ad credibility, attitude toward the ad and purchase intention are measured by seven-point semantic differential scales. The expected benefits are measured on a formative scale and are operationalized by seven-point unlikely-to-likely scales for expected health and hedonic benefits.

The data analysis is conducted using IBM SPSS 25. Before this analysis, the data are cleaned; next, the assumptions for a two-way ANOVA are tested. A vital task before analyzing a questionnaire is testing the internal reliability of all relevant items; therefore, a Cronbach's alpha test is conducted with IBM SPSS 25.

### 6.3.1 Data Cleaning

Data cleaning includes checking for missing values and treating missing responses (Malhotra et al., 2017). Qualtrics registered 213 responses, and all incomplete data has been removed in SPSS. The responses that were removed were missing more than one value. The surveys with only one missing value have been filled in by taking the average. In addition, several SPSS boxplot outputs showed outliers. After closely examining these outliers, two cases were removed since the answers showed zero indication of thoughtful participation. Furthermore, the consistency checks did not indicate any unusual outcomes or reverse data coding, and thus no further problems were present.

## 6.4 Assumptions and reliability

"Assumptions are the conditions that ensure that what you are attempting to do works", (Field, 2016, p. 165). In order to take and interpret statistics

tests, these assumptions should not be violated. The violation of assumptions can lead to inaccurate results and conclusions (Field, 2016).

To begin, outliers can bias the estimates of parameters and therefore the test statistics. In the data-cleaning phase, the outliers have been closely examined and removed if required. The assumptions of a normal distribution and homogeneity of variance are tested below.

### 6.4.1 Normal distribution

The error term should be normally distributed. In a two-way ANOVA, real data is considered quite robust, even if it violates normality. Thus, the data can still provide valid results even if this assumption is violated (Field, 2016). The Shapiro–Wilk test is used to analyze the data in SPSS (Field, 2016; Malhotra et al., 2017). First, the data file is split into different groups of each independent variable. Second, the normality tests are conducted via the "Explore" option. In order to assume a normal distribution, the Shapiro–Wilk test must have a non-significant value. The outputs of each combination of independent variables on each dependent variable show several significant values. However, the value is non-significant; the data set cannot be assumed to be normally distributed (tables 3 to 6). The difficulty is that the shape of the sampling distribution is not known. In order to circumvent this problem, SPSS can implement bootstrapping to treat the data as a population from which smaller bootstrap samples are taken. This process was repeated 2,000 times (Field, 2016).

**Table 3**

**Tests of Normality[a]**

| | | Kolmogorov-Smirnov[b] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | IV_health | Statistic | df | Sig. | Statistic | df | Sig. |
| Average of attitude | Absent | .167 | 40 | .007 | .929 | 40 | .015 |
| Average of credibility | Absent | .127 | 40 | .102 | .974 | 40 | .487 |
| Average of Purchase intention | Absent | .152 | 40 | .021 | .931 | 40 | .018 |
| Average of exp benefits | Absent | .214 | 40 | .000 | .888 | 40 | .001 |

a. IV_health = absent, IV_taste = absent
b. Lilliefors Significance Correction

**Table 4**

**Tests of Normality[a]**

| | | Kolmogorov-Smirnov[b] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | IV_health | Statistic | df | Sig. | Statistic | df | Sig. |
| Average of attitude | Absent | .093 | 39 | .200* | .977 | 39 | .581 |
| Average of credibility | Absent | .083 | 39 | .200* | .985 | 39 | .873 |
| Average of purchase intention | Absent | .147 | 39 | .032 | .933 | 39 | .022 |
| Average of exp benefits | Absent | .117 | 39 | .192 | .948 | 39 | .069 |

* This is a lower bound of the true significance.
a. IV_health = absent, IV_taste = present
b. Lilliefors Significance Correction

**Table 5**

**Tests of Normality[a]**

| | | Kolmogorov-Smirnov[b] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | IV_health | Statistic | df | Sig. | Statistic | df | Sig. |
| Average of attitude | Present | .165 | 42 | .006 | .928 | 42 | .011 |
| Average of credibility | Present | .158 | 42 | .010 | .929 | 42 | .012 |
| Average of purchase intention | Present | .120 | 42 | .136 | .962 | 42 | .172 |
| Average of exp benefits | Present | .090 | 42 | .200* | .963 | 42 | .182 |

* This is a lower bound of the true significance.
a. IV_health = present, IV_taste = absent
b. Lilliefors Significance Correction

**Table 6**

**Tests of Normality[a]**

| | | Kolmogorov-Smirnov[b] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | IV_health | Statistic | df | Sig. | Statistic | df | Sig. |
| Average of attitude | Present | .145 | 46 | .016 | .956 | 46 | .083 |
| Average of credibility | Present | .129 | 46 | .052 | .967 | 46 | .206 |
| Average of purchase intention | Present | .167 | 46 | .002 | .959 | 46 | .105 |
| Average of exp benefits | Present | .130 | 46 | .048 | .974 | 46 | .402 |

a. IV_health = Present, IV_taste = Present

b. Lilliefors Significance Correction

### 6.4.2 Homogeneity of variance

Homogeneity of variance is the assumption that the spread of outcome scores is roughly equal at different points of the predictor variable. When comparing groups, this assumption can be tested with Levene's test. If this test is significant, the variances are significantly different in different groups. Otherwise, homogeneity of variance can be assumed. The tables below display the outputs of Levene's test on each dependent variable.

Table 7 displays the output of the Levene's test on ad credibility, and the variances were equal for taste benefits and health benefits ($F(3.163) = .12$, $p = .948$). Table 8 displays the output of the Levene's test on the attitudes toward the ad, and the variances were equal for taste benefits and health benefits ($F(3.163) = .093$, $p = .964$). For the expected benefits, Table 9 suggests that the variances were equal for taste benefits and health benefits ($F(3.163) = 2.347$, $p = .075$). In addition, table 10 suggests that for purchase intention, the variances were equal for taste benefits and health benefits ($F(3.163) = .636$, $p = .593$). In sum, all measurements are non-significant, implying that homogeneity of variance can be assumed.

**Table 7**

**Levene's Test of Equality of Error Variances[a,b]**

| | | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|---|
| Average of credibility | Based on mean | .121 | 3 | 163 | .948 |
| | Based on median | .076 | 3 | 163 | .973 |
| | Based on median and with adjusted df | .076 | 3 | 154.741 | .973 |
| | Based on trimmed mean | .110 | 3 | 163 | .954 |

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: Average of credibility

b. Design: Intercept + IV_health + IV_taste + IV_health * IV_taste

**Table 8**

**Levene's Test of Equality of Error Variances[a,b]**

| | | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|---|
| Average of attitude | Based on mean | .093 | 3 | 163 | .964 |
| | Based on median | .048 | 3 | 163 | .986 |
| | Based on median and with adjusted df | .048 | 3 | 154.890 | .986 |
| | Based on trimmed mean | .058 | 3 | 163 | .982 |

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: Average of attitude

b. Design: Intercept + IV_health + IV_taste + IV_health * IV_taste

**Table 9**

**Levene's Test of Equality of Error Variances[a,b]**

| | | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|---|
| Average of exp benefits | Based on mean | 2.347 | 3 | 163 | .075 |
| | Based on median | 2.694 | 3 | 163 | .048 |
| | Based on median and with adjusted df | 2.694 | 3 | 152.254 | .048 |
| | Based on trimmed mean | 2.403 | 3 | 163 | .070 |

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: Average of exp benefits

b. Design: Intercept + IV_health + IV_taste + IV_health * IV_taste

**Table 10**

**Levene's Test of Equality of Error Variances[a,b]**

| | | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|---|
| Average of purchase intention | Based on mean | .636 | 3 | 163 | .593 |
| | Based on median | .445 | 3 | 163 | .721 |
| | Based on median and with adjusted df | .445 | 3 | 156.230 | .721 |
| | Based on trimmed mean | .586 | 3 | 163 | .625 |

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: Average of purchase intention

b. Design: Intercept + IV_health + IV_taste + IV_health * IV_taste

### 6.4.3 Internal reliability

Reliability means that the measures in the questionnaire consistently reflect the construct they measure. The most common measure of reliability is Cronbach's alpha (Field, 2016). A value of .7 or .8 is acceptable. If the value is lower, it indicates an unreliable scale. Moreover, the value will increase when the number of items on the scale increases. An unreliable Cronbach's alpha could relate to items that are reversely phrased. In case of an alpha below .7, it is wise to review "the Cronbach's alpha if item deleted", meaning that it is possible to increase the alpha by deleting certain items (Field, 2016). Below, the SPSS outputs of the four dependent variables are analyzed.

In Table 11, the reliability statistics show highly reliable results. The alpha of ad credibility is .906, the alpha of attitude toward the ad is .913, the alpha expected benefits is .899 and lastly the alpha of purchase intention is .860. This means all construct are highly reliable.

**Table 11**

Reliability statistics of all constructs

| Construct | Cronbach's Alpha | N of Items |
|---|---|---|
| Ad credibility | .906 | 4 |
| Attitude toward the ad | .913 | 4 |
| Expected benefits | .899 | 8 |
| Purchase intention | .860 | 2 |

## 6.5 Descriptive statistics

One hundred sixty-five respondents between the ages of 18 and 65 participated in this study (M = 30.18, SD = 12.023). The gender statistics show that 57.7% of the respondents were female. Furthermore, 86.7% were Dutch, 7.9% were Belgian and 5.5% were other nationalities. The respondents can be divided into four treatment groups. The control group consisted of 40 respondents, the taste group consisted of 39 respondents, the health group consisted of 41 respondents and the health and taste group consisted 45 respondents. When splitting the group on basis of the two factors, the number of health group respondents was 86, and 79 respondents were in the taste group.

## 6.6 Data analysis results

In this part, the results of the data analysis are examined. In all statistical tests, an alpha level of .05 is used. The research questions relating to these tests are:

1) Are there differences in advertising effectiveness based on communicating taste benefits versus no taste benefits in healthy food advertising?

2) Are there differences in advertising effectiveness based on communicating health benefits versus no health benefits in healthy food advertising?
3) Is there an interaction between communicating taste benefits and health benefits that affects advertising effectiveness in healthy food advertising?

In order to measure advertising effectiveness, four dependent variables are used. The data analysis is done by analyzing each dependent variable starting with advertisement credibility followed by attitudes toward the ad, purchase intention and expected benefits.

### 6.6.1 Advertisement credibility results

First, the analysis tests were performed on advertisement credibility. The hypotheses are:

***H1****: Communicating taste benefits versus no taste benefits in a healthy food advertisement has a positive effect on ad credibility.*

***H5****: Communicating health benefits versus no health benefits in a healthy food advertisement has a negative effect on ad credibility.*

***H9****: There is an interaction between communicating taste benefits and health benefits that affects ad credibility in healthy food advertising.*

From analyzing the descriptive statistics (Table 12), one can conclude that there are minor differences between the means. Without controlling for the covariates, all means range between 4.319 and 4.529. Controlling for covariates, the highest mean (M = 4.465) is achieved from the group

exposed to the advertisement with both health and taste benefits (Table 13). Subsequently, the group that was exposed to taste benefits has the lowest mean (M = 4.308).

After running a two-way ANOVA, there are no significant effects. More precisely, assessing the effects of taste and health on ad credibility (M = 4.398, SD = 1.272) showed a non-significant main effect of taste on ad credibility (F(1.159) = .008, p= .928) and a non-significant main effect of health on ad credibility (F(1.159) = .343, p = .559) (Table 14). In addition, there was a non-significant interaction between taste and health on ad credibility (F(1.159) = .050, p = .824) (Table 14). That being the case, H1, H5 and H9 are not supported.

**Table 12**

**Descriptive Statistics**

Dependent Variable: Average of credibility

| IV_health | IV_taste | Mean | Std. Deviation | N |
|---|---|---|---|---|
| Absent | Absent | 4.3188 | 1.33011 | 40 |
| | Present | 4.3590 | 1.25629 | 39 |
| | Total | 4.3386 | 1.28604 | 79 |
| Present | Absent | 4.3598 | 1.30390 | 41 |
| | Present | 4.5389 | 1.23394 | 45 |
| | Total | 4.4535 | 1.26346 | 86 |
| Total | Absent | 4.3395 | 1.30881 | 81 |
| | Present | 4.4554 | 1.24012 | 84 |
| | Total | 4.3985 | 1.27173 | 165 |

**Table 13**

**Estimates**

Dependent Variable: Average of credibility

| | | | | 95% Confidence Interval | |
|---|---|---|---|---|---|
| IV_health | IV_taste | Mean | Std. Error | Lower Bound | Upper Bound |
| Absent | Absent | 4.369[a] | .197 | 3.980 | 4.758 |
| | Present | 4.308[a] | .200 | 3.913 | 4.703 |
| Present | Absent | 4.440[a] | .195 | 4.054 | 4.826 |
| | Present | 4.465[a] | .186 | 4.097 | 4.834 |

a. Covariates appearing in the model are evaluated at the following values: Do you consider yourself as a health conscious person? = 3.68; Do you like eating oatmeal? = 2.76.

**Table 14**

**Tests of Between-Subjects Effects**

Dependent Variable: Average of credibility

| Source | df | Mean Square | F | Sig. | Partial Eta. squared |
|---|---|---|---|---|---|
| Corrected Model | 5 | 4.157 | 2.704 | .023 | .078 |
| Intercept | 1 | 230.150 | 149.696 | .000 | .485 |
| Q9_HEALTHCONSCIOUS | 1 | 8.349 | 5.430 | .021 | .033 |
| Q10_LIKE | 1 | 17.475 | 11.366 | .001 | .067 |
| IV_health | 1 | .528 | .343 | .559 | .002 |
| IV_taste | 1 | .013 | .008 | .928 | .000 |
| IV_health * IV_taste | 1 | .076 | .050 | .824 | .000 |
| Error | 159 | 1.537 | | | |
| Total | 165 | | | | |
| Corrected Total | 164 | | | | |

a. R Squared = .078 (Adjusted R Squared = .049)

### 6.6.2 Attitude toward add results

Second, the tests were performed on attitudes toward the ad. The hypotheses are:

***H2**: Communicating taste benefits versus no taste benefits in a healthy food advertisement has a positive effect on attitudes toward the ad.*

***H6**: Communicating health benefits versus no health benefits in a healtyh food advertisement has a negative effect on attitudes toward the ad.*

***H10**: There is an interaction between communicating taste benefits and health benefits that affects attitudes toward healthy food advertising.*

In analyzing the descriptive statistics of attitudes toward the ad (M = 4.5409, SD = 1.333), as predicted, the highest estimated mean is linked with the advertisement communicating both taste and health benefits (M = 4.757, SD = .194) (Table 15). Conversely, the ad communicating solely taste benefits resulted in the lowest estimated mean (M = 4.116, SD = .208). Figure 3 displays a bar chart of these results.

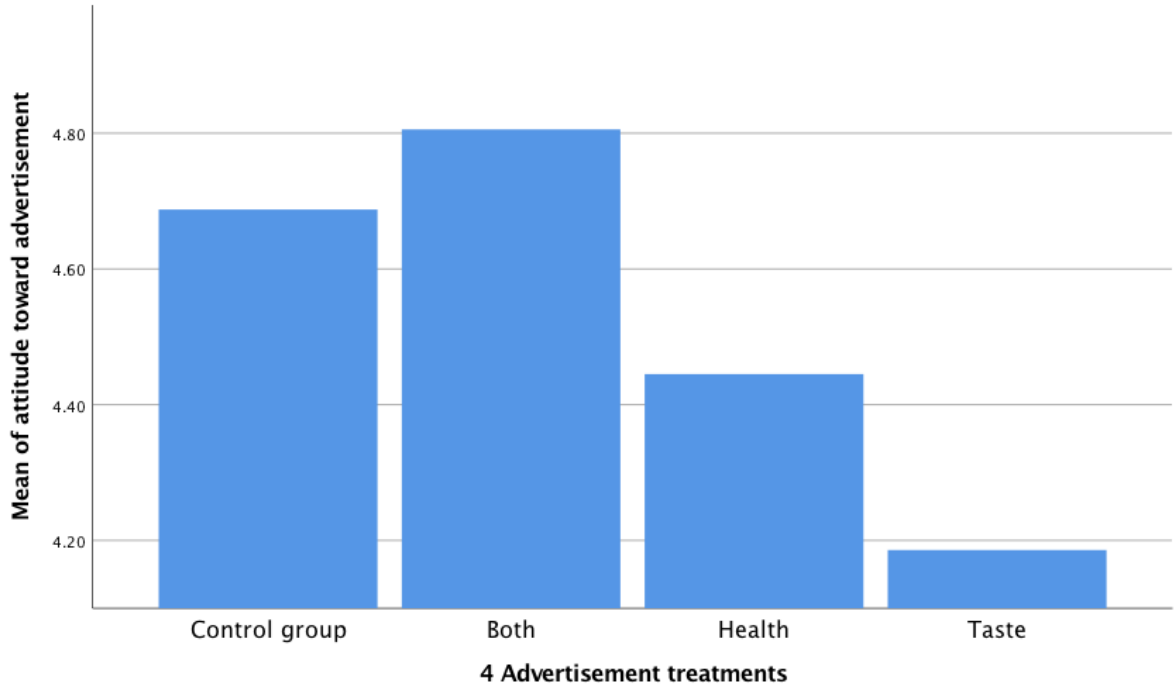


*Figure 3: Bar chart assessing average means of attitudes toward the ad in each group.*

Subsequently, results in Table 16 showed no significant effect of health on attitudes toward the ad ($F(1.159) = 1.259$, $p = .264$), and no significant effect of taste on attitudes toward the ad ($F(1.159) = .873$, $p = .352$). Thus, H2 and H6 are not supported. However, there was a significant interaction between taste and health on attitudes toward the ad ($F(1.159) = 4.231$, $p = .041$). Accordingly, H10 is supported. This significant interaction indicates that taste being absent at both levels of health significantly differs from taste being present at both levels of health. In this case, the taste effect was greater when health messages were present than when health

messages were not present. Figure 4 below displays these trends and, in particular, the crossover interaction.

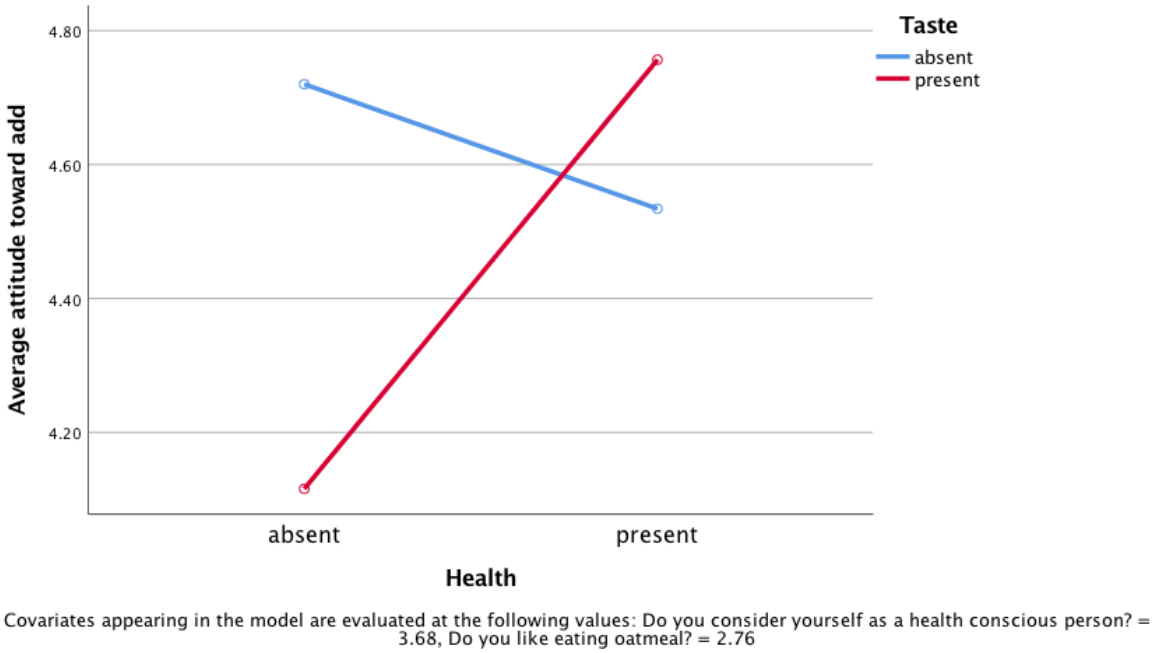


*Figure 4: Two-way AN(C)OVA profile plot on attitudes toward the ad*

Since there is a significant interaction, post hoc pairwise comparisons have been performed to analyze the simple interaction effects (Table 17). These Bonferroni-adjusted comparisons indicate that the control group rated their attitudes toward the ad .604 points higher than the group exposed to the advertisement communicating taste benefits (p = .040, 95% CI of the difference = .029 to 1.180).

Subsequently a one-way ANOVA test, where the treatment is used as the independent variable, analyzed the simple effects between all groups. Controlling for multiple comparisons with the Bonferroni test, the simple effects comparison was not significant (Table 18).

**Table 15**

**Estimates**

Dependent Variable: Average of credibility

| IV_health | IV_taste | Mean | Std. Error | 95% Confidence Interval Lower Bound | 95% Confidence Interval Upper Bound |
|---|---|---|---|---|---|
| Absent | Absent | 4.369[a] | .197 | 3.980 | 4.758 |
| | Present | 4.308[a] | .200 | 3.913 | 4.703 |
| Present | Absent | 4.440[a] | .195 | 4.054 | 4.826 |
| | Present | 4.465[a] | .186 | 4.097 | 4.834 |

a. Covariates appearing in the model are evaluated at the following values: Do you consider yourself as a health conscious person? = 3.68; Do you like eating oatmeal? = 2.76.

**Table 16**

**Tests of Between-Subjects Effects**

Dependent Variable: Average of attitude

| Source | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|
| Corrected Model | 5 | 5.520 | 3.328 | .007 | .095 |
| Intercept | 1 | 196.381 | 118.415 | .000 | .427 |
| Q9_HEALTHCONSCIOUS | 1 | 1.887 | 1.138 | .288 | .007 |
| Q10_LIKE | 1 | 18.238 | 10.997 | .001 | .065 |
| IV_health | 1 | 2.088 | 1.259 | .264 | .008 |
| IV_taste | 1 | 1.448 | .873 | .352 | .005 |
| IV_health * IV_taste | 1 | 7.017 | 4.231 | .041 | .026 |
| Error | 159 | 1.658 | | | |
| Total | 165 | | | | |
| Corrected Total | 164 | | | | |

a. R Squared = .095 (Adjusted R Squared = .066)

**Table 17**

**Pairwise Comparisons**

Dependent Variable: Average of attitude

| IV_health | (I) IV_taste | (J) IV_taste | Mean Difference (I-J) | Std. Error | Sig.[b] | 95% Confidence Interval for Difference[b] Lower Bound | Upper Bound |
|---|---|---|---|---|---|---|---|
| Absent | Absent | Present | .604* | .291 | .040 | .029 | 1.180 |
| | Present | Absent | -.604* | .291 | .040 | -1.180 | -.029 |
| Present | Absent | Present | -.223 | .282 | .431 | -.779 | .334 |
| | Present | Absent | .223 | .282 | .431 | -.334 | .779 |

Based on estimated marginal means

* The mean difference is significant at the 0

b. Adjustment for multiple comparisons: Bonferroni.

**Table 18**

**Multiple Comparisons**

Dependent Variable: Average of attitude

Bonferroni

| (I) 4 AD conditions | (J) 4 AD conditions | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval Lower Bound | Upper Bound |
|---|---|---|---|---|---|---|
| Control group | Both | -.11806 | .28759 | 1.000 | -.8863 | .6502 |
| | Health | .24238 | .29412 | 1.000 | -.5433 | 1.0280 |
| | Taste | .50160 | .29782 | .564 | -.2939 | 1.2971 |
| Both | Control group | .11806 | .28759 | 1.000 | -.6502 | .8863 |
| | Health | .36043 | .28573 | 1.000 | -.4028 | 1.1237 |
| | Taste | .61966 | .28953 | .203 | -.1538 | 1.3931 |
| Health | Control group | -.24238 | .29412 | 1.000 | -1.0280 | .5433 |
| | Both | -.36043 | .28573 | 1.000 | -1.1237 | .4028 |
| | Taste | .25922 | .29602 | 1.000 | -.5315 | 1.0500 |
| Taste | Control group | -.50160 | .29782 | .564 | -1.2971 | .2939 |
| | Both | -.61966 | .28953 | .203 | -1.3931 | .1538 |
| | Health | -.25922 | .29602 | 1.000 | -1.0500 | .5315 |

### 6.6.3 Expected benefits results

Third, the tests were performed for expected benefits. The hypotheses according are:

***H3**: Communicating taste benefits versus no taste benefits in a healthy food advertisement has a positive effect on expected benefits.*

***H7**: Communicating health benefits versus no health benefits in a healthy food advertisement has a negative effect on expected benefits.*

***H11**: There is an interaction between communicating taste benefits and health benefits that affects expected benefits in healthy food advertising.*

Several tests for expected benefits were executed (M = 4.133, SD = 1.115) (Table 19). Table 19 shows a trend indicating a preference for the ad communicating both health and taste benefits (M = 4.328, SD = .167), and the lowest mean is from the group exposed to the advertisement communicating only taste benefits (M = 3.805, SD = .179). Figure 5 displays these differences in a chart.

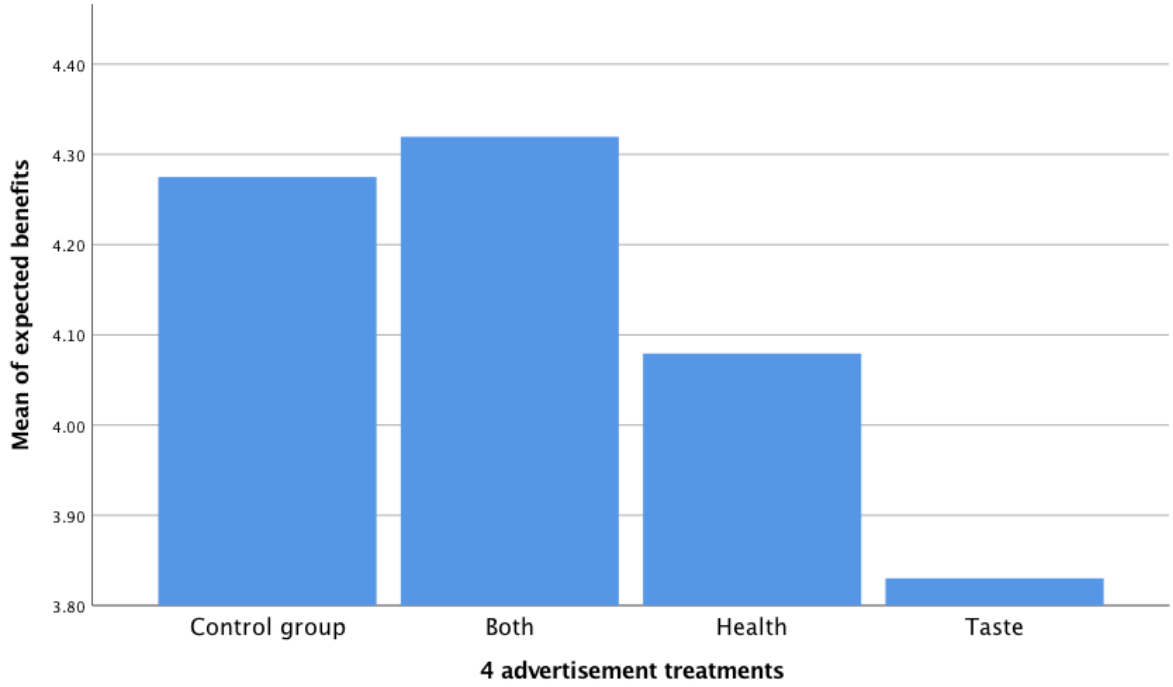


*Figure 5: Bar chart assessing the average means of expected benefits for each group.*

Table 20 shows results of the two-way ANOVA, which indicate a non-significant effect of health on expected benefits ($F(1.159) = 1.023$, $p = .313$) and a non-significant effect of taste on expected benefits ($F(1.159) = .446$, $p = .505$). There was a significant interaction between taste and health on expected benefits ($F(1.159) = 3.972$, $p = .048$), implying that the difference of absent taste messages when health messages are absent or present differs significantly from health (Figure 6). Given these statistics, H11 is supported and H3 and H7 are not supported.

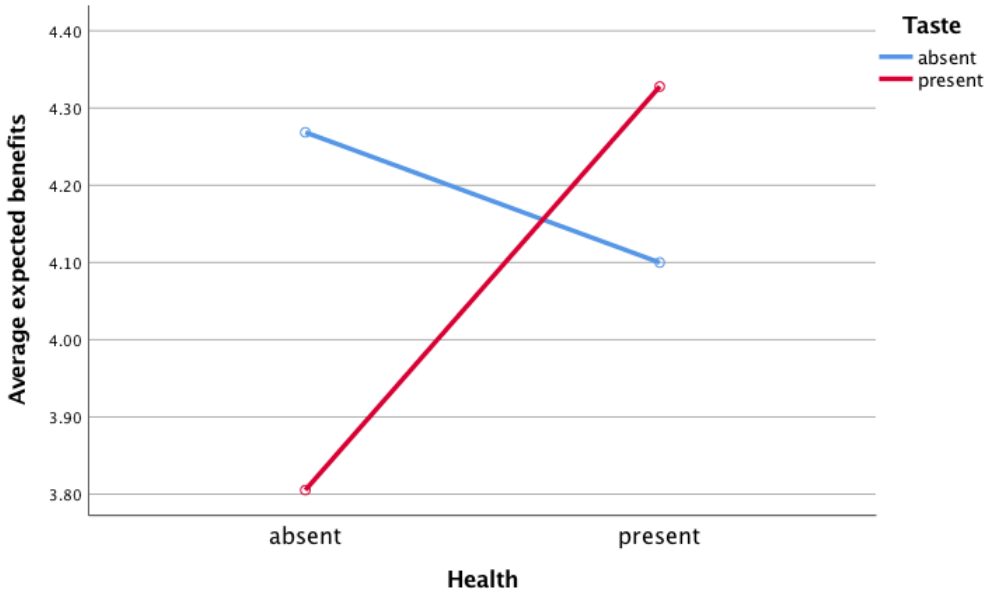


*Figure 6: Two Way AN(C)OVA profile plot on expected benefits*

Bonferroni pairwise comparisons indicate a marginal significant effect at a p-value lower than 0.1. The control group rated the expected benefits .463 points higher than the taste group (p = .067) (Table 21). Furthermore, the Bonferroni adjusted one-way ANOVA showed no significant simple effects (Table 22).

**Table 19**
**Estimates**

Dependent Variable: Average of purchase intention

| | | | | 95% Confidence Interval | |
|---|---|---|---|---|---|
| IV_health | IV_taste | Mean | Std. Error | Lower Bound | Upper Bound |
| Absent | Absent | 4.145[a] | .232 | 3.686 | 4.603 |
| | Present | 3.096[a] | .236 | 2.630 | 3.562 |
| Present | Absent | 3.896[a] | .231 | 3.440 | 4.351 |
| | Present | 4.306[a] | .220 | 3.871 | 4.740 |

a. Covariates appearing in the model are evaluated at the following values: Do you consider yourself as a health conscious person? = 3.68; Do you like eating oatmeal? = 2.76.

**Table 20**
**Tests of Between-Subjects Effects**

Dependent Variable: Average of exp benefits

| Source | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|
| Corrected Model | 5 | 1.608 | 1.303 | .265 | .039 |
| Intercept | 1 | 152.301 | 123.434 | .000 | .437 |
| Q9_HEALTHCONSCIOUS | 1 | .630 | .511 | .476 | .003 |
| Q10_LIKE | 1 | .604 | .489 | .485 | .003 |
| IV_health | 1 | 1.263 | 1.023 | .313 | .006 |
| IV_taste | 1 | .550 | .446 | .505 | .003 |
| IV_health * IV_taste | 1 | 4.901 | 3.972 | .048 | .024 |
| Error | 159 | 1.234 | | | |
| Total | 165 | | | | |
| Corrected Total | 164 | | | | |

a. R Squared = .039 (Adjusted R Squared = .009)

**Table 21**
**Pairwise Comparisons**

Dependent Variable: Average of exp benefits

| IV_health | (I) IV_taste | (J) IV_taste | Mean Difference (I-J) | Std. Error | Sig.[a] | 95% Confidence Interval for Difference[a] Lower Bound | Upper Bound |
|---|---|---|---|---|---|---|---|
| Absent | Absent | Present | .463 | .251 | .067 | -.033 | .960 |
| | Present | Absent | -.463 | .251 | .067 | -.960 | .033 |
| Present | Absent | Present | -.228 | .243 | .350 | -.708 | .252 |
| | Present | Absent | .228 | .243 | .350 | -.252 | .708 |

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

**Table 22**
**Multiple Comparisons**

Dependent Variable: Average of exp benefits
Bonferroni

| (I) 4 AD conditions | (J) 4 AD conditions | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval Lower Bound | 95% Confidence Interval Upper Bound |
|---|---|---|---|---|---|---|
| Control group | Both | -.04444 | .24108 | 1.000 | -.6884 | .5995 |
| | Health | .19573 | .24655 | 1.000 | -.4629 | .8543 |
| | Taste | .44487 | .24966 | .460 | -.2220 | 1.1118 |
| Both | Control group | .04444 | .24108 | 1.000 | -.5995 | .6884 |
| | Health | .24018 | .23952 | 1.000 | -.3996 | .8800 |
| | Taste | .48932 | .24271 | .273 | -.1590 | 1.1377 |
| Health | Control group | -.19573 | .24655 | 1.000 | -.8543 | .4629 |
| | Both | -.24018 | .23952 | 1.000 | -.8800 | .3996 |
| | Taste | .24914 | .24815 | 1.000 | -.4137 | .9120 |
| Taste | Control group | -.44487 | .24966 | .460 | -1.1118 | .2220 |
| | Both | -.48932 | .24271 | .273 | -1.1377 | .1590 |
| | Health | -.24914 | .24815 | 1.000 | -.9120 | .4137 |

### 6.6.4 Purchase intention results

Finally, the analysis tests were performed for purchase intention. The hypotheses are:

***H4**: Communicating taste benefits versus no taste benefits in a healthy food advertisement has a positive effect on purchase intention.*

***H8**: Communicating health benefits versus no health benefits in a healthy food advertisement has a negative effect on purchase intention.*

***H12**: There is an interaction between communicating taste benefits and health benefits that affects purchase intention in healthy food advertising.*

The descriptive statistics in Table 23 indicate a predicted preference for the advertisement communicating both health and taste benefits. The highest mean is seen in the advertisement communicating both health and taste benefits (M = 4.306, SD = .220), followed by the control group (M = 4.145, SD = .232). The group exposed solely to taste benefits rated purchase intention the lowest (M = 3.096, SD = .236). These results are shown in figure 7.

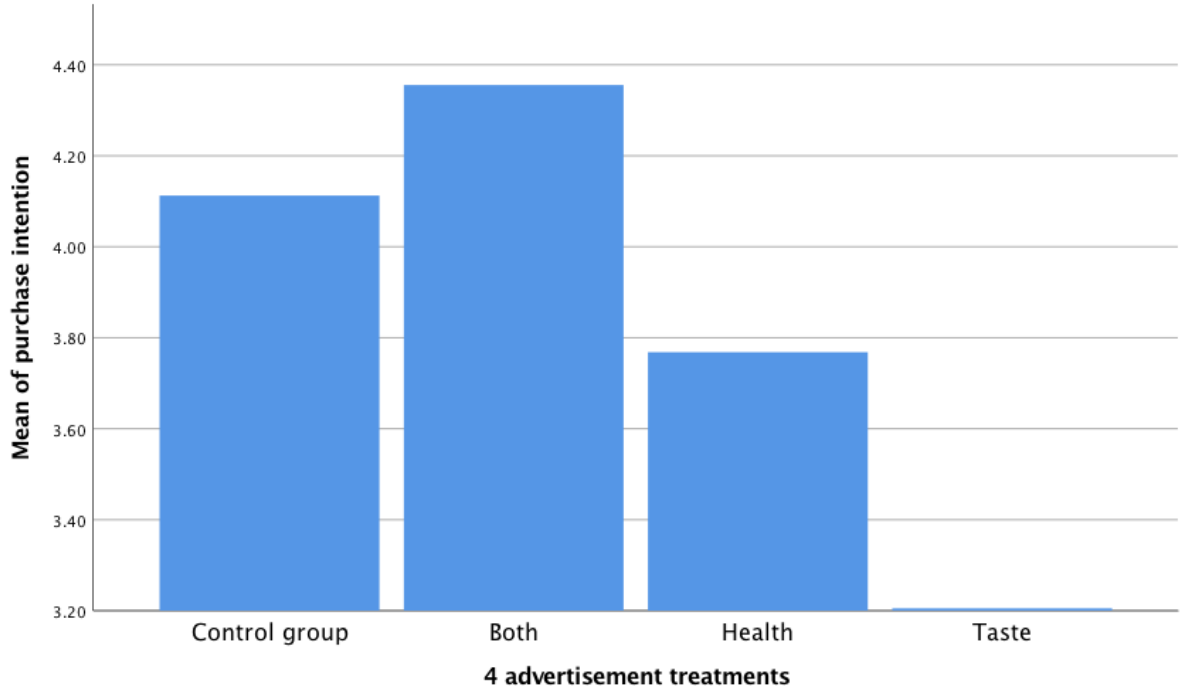


*Figure 7: Bar chart assessing the average means of purchase intention for each group.*

The results of the between-subjects ANOVA test on purchase intention (Table 23) indicate a significant main effect of health on purchase intention, ($F(1.159) = 4.349$, $p = .039$). The main effect of taste on purchase intention was non-significant ($F(1.159) = 1.896$, $p = .171$). The main effect of taste was qualified by a significant interaction between taste and health ($F(1.159) = 10.20$, $p = .002$). This trend is observable in Figure 8. The graph plot illustrates that the lines are not parallel, indicating a crossover interaction. Thus, H8 and H12 are supported, but H4 is not supported.

There is a main effect of health on purchase intention, but the effect of health alone depends on the presence or absence of taste in the advertisement since there is a significant interaction. Since this effect is determined by the level of taste, interpreting the main effect of health is not sufficient (Field, 2016). The post hoc pairwise comparison in Table 24 shows one significant effect; the control group rated their purchase intention 1.0149 points higher than the respondents exposed to the advertisement communicating taste benefits (p = .002, 95% CI of the difference = .395 to 1.703).

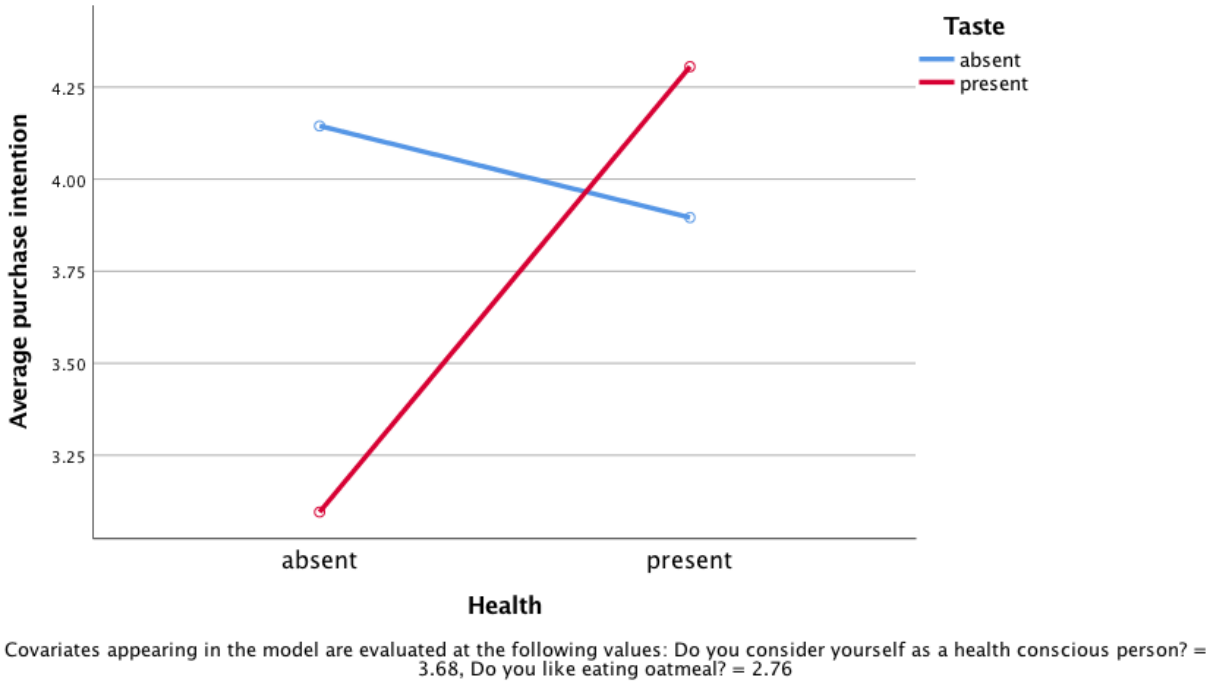


*Figure 8: Two-way AN(C)OVA profile plot on average purchase intention*

A one-way ANOVA was performed to analyze the simple effects between the four groups (Table 25). Here, the Bonferroni adjustment comparison indicates that the advertisement communicating both taste and health benefits scored 1.150 points higher than the taste advertisement did (p = .00, 95% CI of the difference = .573 to 1.847). In addition, these results indicate a marginally significant preference for the advertisement without

health and taste messages (M = 4.145, SD = .232) over the advertisement with taste benefits (M = 4.306, SD = .220) (p = .056).

**Table 23**
**Estimates**

Dependent Variable: Average of purchase intention

| | | | | 95% Confidence Interval | |
|---|---|---|---|---|---|
| IV_health | IV_taste | Mean | Std. Error | Lower Bound | Upper Bound |
| Absent | Absent | 4.145[a] | .232 | 3.686 | 4.603 |
| | Present | 3.096[a] | .236 | 2.630 | 3.562 |
| Present | Absent | 3.896[a] | .231 | 3.440 | 4.351 |
| | Present | 4.306[a] | .220 | 3.871 | 4.740 |

b. Covariates appearing in the model are evaluated at the following values: Do you consider yourself as a health conscious person? = 3.68; Do you like eating oatmeal? = 2.76.

**Table 24**
**Tests of Between-Subjects Effects**

Dependent Variable: Average of purchase intention

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 67.666[a] | 5 | 13.533 | 6.321 | .000 |
| Intercept | 107.415 | 1 | 107.415 | 50.172 | .000 |
| Q9_HEALTHCONSCIOUS | .688 | 1 | .688 | .322 | .571 |
| Q10_LIKE | 34.845 | 1 | 34.845 | 16.276 | .000 |
| IV_health | 9.311 | 1 | 9.311 | 4.349 | .039 |
| IV_taste | 4.058 | 1 | 4.058 | 1.896 | .171 |
| IV_health * IV_taste | 21.838 | 1 | 21.838 | 10.200 | .002 |
| Error | 340.410 | 159 | 2.141 | | |
| Total | 2890.500 | 165 | | | |
| Corrected Total | 408.076 | 164 | | | |

a. R Squared = .166 (Adjusted R Squared = .140)

**Table 25**
**Pairwise Comparisons**

Dependent Variable: Average of purchase intention

| IV_health | (I) IV_taste | (J) IV_taste | Mean Difference (I-J) | Std. Error | Sig.[b] | 95% Confidence Interval for Difference[b] Lower Bound | Upper Bound |
|---|---|---|---|---|---|---|---|
| Absent | Absent | Present | 1.049* | .331 | .002 | .395 | 1.703 |
| | Present | Absent | -1.049* | .331 | .002 | -1.703 | -.395 |
| Present | Absent | Present | -.410 | .320 | .202 | -1.042 | .222 |
| | Present | Absent | .410 | .320 | .202 | -.222 | 1.042 |

Based on estimated marginal means

* The mean difference is significant at the 0

b. Adjustment for multiple comparisons: Bonferroni.

**Table 26**
**Multiple Comparisons**

Dependent Variable: Average of purchase intention
Bonferroni

| (I) 4 AD conditions | (J) 4 AD conditions | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval Lower Bound | Upper Bound |
|---|---|---|---|---|---|---|
| Control group | Both | -.24306 | .33273 | 1.000 | -1.1319 | .6458 |
| | Health | .34421 | .34029 | 1.000 | -.5648 | 1.2532 |
| | Taste | .90737 | .34457 | .056 | -.0131 | 1.8278 |
| Both | Control group | .24306 | .33273 | 1.000 | -.6458 | 1.1319 |
| | Health | .58726 | .33058 | .465 | -.2958 | 1.4703 |
| | Taste | 1.15043* | .33498 | .005 | .2556 | 2.0453 |
| Health | Control group | -.34421 | .34029 | 1.000 | -1.2532 | .5648 |
| | Both | -.58726 | .33058 | .465 | -1.4703 | .2958 |
| | Taste | .56316 | .34249 | .612 | -.3517 | 1.4780 |
| Taste | Control group | -.90737 | .34457 | .056 | -1.8278 | .0131 |
| | Both | -1.15043* | .33498 | .005 | -2.0453 | -.2556 |
| | Health | -.56316 | .34249 | .612 | -1.4780 | .3517 |

* The mean difference is significant at the 0.05 level.

# 7. Conclusions and recommendations

This study focuses on how communicating health and/or taste benefits can influence customer attitudes toward healthy food advertisements and therefore increase the advertising effectiveness of health products. The results of this research could provide marketing managers and promoters with better knowledge on healthy food promotions. These contributions are necessary to effectively encourage consumers to adopt a more healthy diet via marketing communications. The current findings provide significant information about how taste and health benefits can be communicated in healthy food advertisements regarding the central research question:

Are there differences in advertising effectiveness based on communicating taste benefits vs. no taste benefits and health benefits vs. no health benefits in healthy food advertising?

To answer this research question, several hypotheses were tested with SPSS 25. The results are presented below:

| **Hypotheses** | **Results** |
|---|---|
| **Main effect hypotheses** | |
| *H1: Communicating **taste benefits versus no taste benefits** in a healthy food advertisement has a positive effect on **ad credibility**.* | **Not supported** |
| *H2: Communicating **taste benefits versus no taste benefits** in a healthy food advertisement has a positive effect on **attitudes toward the ad**.* | **Not supported** |
| *H3: Communicating **taste benefits versus no taste benefits** in a healthy food advertisement has a positive effect on **expected benefits.*** | **Not supported** |
| *H4: Communicating **taste benefits versus no taste benefits** in in a healthy food advertisement has a positive effect on **purchase intention.*** | **Not supported** |

| | |
|---|---|
| *H5: Communicating **health benefits versus no health benefits** in a healthy food advertisement has a negative effect on **add credibility.*** | **Not supported** |
| *H6: Communicating **health benefits versus no health benefits** in a healthy food advertisement has a negative effect on **attitudes toward the ad.*** | **Not supported** |
| *H7: Communicating **health benefits versus no health benefits** in a healthy food advertisement has a negative effect on **expected benefits.*** | **Not supported** |
| *H8: Communicating **health benefits versus no health benefits** in a healthy food advertisement has a negative effect on **purchase intention.*** | **Supported** |
| **Interaction hypotheses** | |
| *H9: There is an interaction between communicating **taste benefits and health benefits** that affects **ad credibility** in healthy food advertising**.*** | **Not supported** |
| *H10: There is an interaction between communicating **taste benefits and health benefits** that affects **attitudes toward the ad** in healthy food advertising**.*** | **Supported** |
| *H11: There is an interaction between communicating **taste benefits and health benefits** that affects **expected benefits** in healthy food advertising**.*** | **Supported** |
| *H12: There is an interaction between communicating **taste benefits and health** benefits that affects **purchase intention** in healthy food advertising**.*** | **Supported** |

*Table 27: Hypotheses results*

Only one main effect hypothesis is supported, whereas three of the four interaction hypotheses are supported. In general, when an interaction occurs, there is no need analyze main effects because the results depend on the level of each factor. For this reason, the significant hypotheses concerning interaction effects (H10, H11 and H12) are systematically analyzed.

First, the synergistic interaction is only significant for attitudes toward the ad, ad credibility and purchase intention. Although the average mean is quite high (M = 4.3985, SD = 1.27172), indicating a high level of credibility, the measurements indicate no significant dissimilarities in the assessments of advertisement credibility across the different advertisements. These results show that the impact of communicating health and/or taste does not affect consumers' understanding of these benefits.

More importantly, contrary to the belief that including taste benefits improves advertising effectiveness, the results indicate that solely including taste benefits has a negative impact on advertising effectiveness. This notion is supported because the advertisement communicating solely taste benefits scored lowest in purchase intention, attitudes toward the ad and expected benefits. These results could be linked to the fact that solely attracting consumers' attention by including taste benefits is not sufficient. Positive thoughts or emotions need to be further developed in intentions for consumers to have an attitude toward a healthy food. Moreover, designing food promotions aimed at attracting consumer attention can change the product's experience in an unpredicted way or may even encourage doubt towards the promoted healthy food (Bialkova et al., 2016).

Yet, the results indicate that the dual strategy outperforms all other strategies. Communicating both health and taste shows significantly better results. All significant interactions appeared to be synergistic, indicating that health and taste strengthen each other. This difference could be because cognitive and affective processes are interrelated (Petty & Cacioppo, 1986). Thus, combining hedonic and utilitarian benefits in an advertisement influences consumer attitudes toward the product. In a way, taste benefits can capture the consumer's attention and trigger positive

emotions. These emotions, even when consumer involvement is low, can be transferred into intention. This positive state can create greater awareness of and attention toward visual benefits of the product. This process has been used to transfer positive feelings to the product in order to increase advertising effectiveness (Bublitz & Peracchio, 2015). Eisend and Tarrahi (2016) support these thoughts. They provide evidence that the message has the strongest effect when combined with both cognition and emotion, explaining that the benefits communicated in the advertisement are most powerful when there is low involvement. Emotional benefits can evoke feelings, which when linked to cognitive benefits influence consumers' thoughts about and cognitive responses to the brand. This process is called the emotion-cognition process. These results are in line with Lee and Yun (2015) to such a degree that they provide evidence that both nutritional and hedonic attributes' perceptions can influence consumers' attitudes toward healthy food and thus increase consumer purchase intention.

The role of the unhealthy = taste intuition plays a massive role in food marketing communications. Research indicates that health and taste are inversely related, creating positive taste perceptions of unhealthy products and negative taste perceptions of healthy products. In order to convince consumers to make healthier choices, this trade-off must be broken. Several researchers argue that communicating both health and taste benefits could break down this trade-off (Lim & Ang, 2008; Raghunathan et al., 2006). This research provides empirical evidence confirming such theories.

In conclusion, a dual approach has proven successful in marketing communications of rather unhealthy products, but this study provides evidence that this marketing approach can be applied to healthy products.

# 8. Limitations and further implications

## 8.1 Limitations

This study has several shortcomings that can be used as a starting point for further research.

First, the respondents were asked about their perceptions of and attitudes toward the healthy product advertisement. Thus, no actual consumer behavior was tested. A suggestion would be to evaluate consumers' buying behavior in a supermarket after viewing the advertisement. Subsequently, this study only focused on advertisements for one healthy product. This fails to simulate a situation in which a consumer would have a choice between buying and consuming healthy and unhealthy products.

Additionally, a relevant part of the marketing mix is not taken into account. The prices of consumer foods influence dietary intake; therefore, relative costs influence food purchase decisions, especially because healthy foods are often more expensive and are perceived as expensive by consumers (Pettigrew, 2016). Therefore, a relatively high price can make healthy food less attractive (Pettigrew, 2016). Only one product, oatmeal, was tested in this study, whereas there is a wide range of health products that could be tested in a healthy food advertisement. Future research could conduct experiments that take these aforementioned aspects into consideration.

## 8.2 Further implications

This study has some implications for marketers and policy makers. The findings provide insights on which communication strategy regarding taste and health benefits is most effective in advertising. However, in order to make healthy foods more attractive to consumers, consumers must be exposed to more healthy food advertisements (Bublitz & Peracchio, 2015).

Thus, exposing consumers to healthy food advertisements communicating both health and taste benefits—i.e., a dual strategy—will help consumers form attitudes more easily because it is more accessible in their memories.

Nevertheless, breaking down the implicit belief of the unhealthy = tasty intuition via advertising is a short-term approach. In order to change consumer attitudes and beliefs about healthy foods, a more holistic approach is needed. Firms focusing solely on the four Ps of marketing are limiting their scope. Further implications suggest that firms must become more involved in consumer behavior and the buying process (Pettigrew, 2016). Pettigrew (2016) proposes a social marketing approach involving a fifth P (i.e., pleasure) in marketing programs. Social marketing recognizes the importance of social behavior, suggesting that an individual's actions occur in a broader social context, whereas pleasure focuses on realizing the belief that a healthy diet can be an enjoyable aspect of life. This concept contributes to a paradigm shift away from the idea that being healthy requires compromise to a healthy = tasty intuition (Figure 9). This new paradigm requires a more positive approach involving companies, consumers and policy makers working together to avoid any compromises on taste (Mai & Hoffmann, 2015).

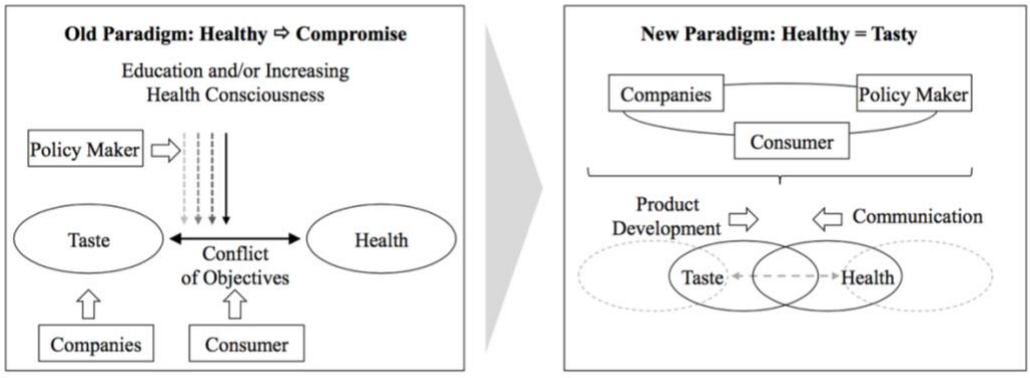


*Figure 9: Paradigm shift from 'healthy requires compromise' to 'healthy is tasty', reprinted from Mai and Hoffmann (2015)*

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# Appendix

### Appendix 1 : Questionnaire

INTRO Dear participant,

My name is Bo Vleugels and I am a Master student at Hasselt University. For my master thesis I am doing research on food advertising.

Thank you for taking the time to complete the following survey. It will take about five minutes. It is important to know that there are no right or wrong answers, only your personal opinion matters. All responses will remain anonymous.
Kind regards,

Bo Vleugels (bo.vleugels@student.uhasselt.be)

SCREENER - What is your age?

_____

If age is < 16.
Thank you for your interest in my survey. Unfortunately you do not qualify for this survey at this time.

AD1 Please take a look at the advertisement below:


AD2 Please take a look at the advertisement below.

AD3 Please take a look at the advertisement below.


AD4 Please take a look at the advertisement below.

Q1 Do you think this ad is:

| | 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | 6 (6) | 7 (7) | |
|---|---|---|---|---|---|---|---|---|
| Unbelievable (1) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | Believable |
| Untrustworthy (2) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | Trustworthy |
| Unrealistic (3) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | Realistic |
| Unconvincing (4) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | Convincing |

Q2 What is your overall evaluation of the advertisement?

| | 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | 6 (6) | 7 (7) | |
|---|---|---|---|---|---|---|---|---|
| Bad (1) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | Good |
| Unpleasant (2) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | Pleasant |
| Unfavourable (3) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | Favourable |
| Negative (4) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | Positive |

Q3 What is the probability that you will purchase the advertised product in the future?

| | 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | 6 (6) | 7 (7) | |
|---|---|---|---|---|---|---|---|---|
| Unlikely (1) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | Likely |
| Impossible (2) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | Possible |

Q4 How likely is it that eating this product results in:

| | Extremely unlikely (1) | Moderately unlikely (2) | Slightly unlikely (3) | Neither likely nor unlikely (4) | Slightly likely (5) | Moderately likely (6) | Extremely likely (7) |
|---|---|---|---|---|---|---|---|
| A healthier life (1) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Providing nutrition in my daily diet (2) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A better condition (3) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A better physical health (4) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

Q5 How likely is it that eating this product results in:

| | Extremely unlikely (1) | Moderately unlikely (2) | Slightly unlikely (3) | Neither likely nor unlikely (4) | Slightly likely (5) | Moderately likely (6) | Extremely likely (7) |
|---|---|---|---|---|---|---|---|
| A happier life (1) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Feeling good about myself (2) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| An increase in pleasure (3) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A sensory experience (related to sensation) (4) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**General questions**

Q6 What is your gender?

- ○ Male (1)
- ○ Female (2)
- ○ Other (3)

Q7 What is your nationality?

- ○ Dutch (1)
- ○ Belgian (2)
- ○ Other, namely (3) _____

Q8 Employment: are you currently..

- ○ Employed full time (1)
- ○ Employed part time (2)
- ○ Unemployed looking for work (3)
- ○ Unemployed not looking for work (4)
- ○ Retired (5)
- ○ Student (6)
- ○ Disabled (7)

Q9 Do you consider yourself as a health conscious person?

- ○ Definitely not (1)
- ○ Probably not (2)
- ○ Might or might not (3)
- ○ Probably yes (4)
- ○ Definitely yes (5)

Q10 Do you like eating oatmeal?

- ○ Definitely not (1)
- ○ Probably not (2)
- ○ Might or might not (3)
- ○ Probably yes (4)
- ○ Definitely yes (5)

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Q11 Are you allergic to oatmeal?

- ○ Yes (1)
- ○ Maybe (2)
- ○ No (3)

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**The effect of communicating health and taste benefits on the effectiveness of healthy food advertising**

Richting: **Master of Management-International Marketing Strategy**
Jaar: **2018**

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